FINDING OF NO SIGNIFICANT IMPACT

I have reviewed the attached Environmental Assessment (EA) No: ES-020-03-29 prepared by the Bureau of Land Management for the Draft Lathrop Bayou Habitat Management Plan (HMP). The tract is located in eastern Bay County, Florida (Township 5 South, Range 12 West, portions of sections 15, 22, 23, and 27). Based on the analysis of potential environmental impacts that could result from implementing the Draft HMP, I have determined that the proposed action is not expected to have a significant impact on the human environment. Therefore, an Environmental Impact Statement is not required.

Prepared by:

_____ _____

Wildlife Biologist — Date
Jackson Field Office
Eastern States
Bureau of Land Management

Reviewed by:

_____ _____

Environmental Coordinator — Date
Jackson Field Office
Eastern States
Bureau of Land Management

Approved by:

_____ _____

Field Office Manager — Date
Jackson Field Manager
Eastern States
Bureau of Land Management

ENVIRONMENTAL ASSESSMENT
(No: ES-020-03-29)

FOR THE
LATHROP BAYOU
HABITAT MANAGEMENT PLAN

BUREAU OF LAND MANAGEMENT
JACKSON FIELD OFFICE
411 BRIARWOOD DRIVE, SUITE 404
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ENVIRONMENTAL ASSESSMENT
Prepared by

BUREAU OF LAND MANAGEMENT, JACKSON FIELD OFFICE
411 BRIARWOOD DRIVE, SUITE 404, JACKSON, MISSISSIPPI 39206

Title: Draft Lathrop Bayou Habitat Management Plan

Location: Township 5 South, Range 12 West, portions of Sections 15, 22, 23 and 27. See Lathrop Bayou Habitat Management Plan for all referenced maps.

Action: Habitat Management Plan

EA Number: ES-020-03-29

Date: July 2003

I. INTRODUCTION

The Lathrop Bayou Habitat Management Plan (HMP) addresses the proposed management of 189 acres of public domain land at the east end of East Bay in Bay County, Florida. General and specific location maps are available in the attached Habitat Management Plan. The HMP describes habitat improvement measures, population management and monitoring of federally and state-listed plant and animal species occurring at Lathrop Bayou, as well as the management of at risk habitats supporting these species. The plan includes a prescribed burn plan to improve habitat conditions and to reduce the risk of a catastrophic wildland fire in this long unburned pine flatwood/savanna. The plan also provides the framework to implementation of the Land Stewardship Memorandum of Understanding signed on December 20, 2002 between federal, state and private partners to collaboratively manage additional acreage at Lathrop Bayou and Wetappo Creek for the benefit of special status plants and animals.

II. PURPOSE AND NEED

The actions described in the HMP and analyzed in this document were developed to implement the land use and resource decisions made by the Eastern States Jackson Field Office in the Florida Resource Management Plan (RMP), signed on June 21, 1995. The RMP Final Environmental Impact Statement (RMP-EIS) prepared for the Florida Resource Management Plan provides an analysis of a broad range of management alternatives, issues and impacts considered in the BLM's management of public domain land and minerals in the State of Florida.

This HMP identifies the actions proposed for the management of public land at Lathrop Bayou. However, it will be coordinated with similar efforts to manage an additional 350 acres of adjacent private lands at Lathrop Bayou, as well as 926 acres of St. Joe Timberland property at Wetappo Creek in Gulf County. The partners include St. Joe Timberland Company and Genecov Group, as well as the U.S. Fish and Wildlife Service

and the Florida Fish and Wildlife Conservation Commission. A copy of the Land Stewardship Memorandum of Understanding is included in the HMP Appendix A.

III. CONFORMANCE AND APPLICABLE LAND USE PLANS

Management objectives and land-use allocations were established for the Lathrop Bayou tract in the *Florida Proposed Resource Management Plan and Final Environmental Impact Statement* (1995 RMP). Impact identification and analysis was conducted for the land use planning performed for this tract. Impact identification and analysis, in this EA, addresses the impacts (and mitigation) of implementing the actions proposed in the Lathrop Bayou Habitat Management Plan.

As required in 43 Code of Federal Regulations (CFR) 1610.5, the proposed action was reviewed to determine if it complies with the land use decisions in the 1995 RMP. The proposed action complies with the decisions made in the RMP. As per the RMP, the Jackson Field Office is responsible for completing and implementing a habitat management plan for the Lathrop Bayou tract ((page 12) BLM, 1995).

IV. PROPOSED ACTIONS AND ALTERNATIVES

Proposed Action

The reintroduction of fire is the primary management tool proposed in the draft HMP. The goal would be to reduce the fuel load at Lathrop Bayou sufficiently to allow for the implementation of growing season burns. Under the proposed plan up to three non-growing season burn would be conducted across the entire Raffield Island and the smaller island to the south. Burns are expected to take place during January or February. The number of non-growing season burns and the burn interval would be adapted in the effectiveness of the burns and the response of the vegetation. Once the vegetation fuel load has been reduced and the shrub layer on 80% of the island is less that 1 meter tall, the burns may be shifted to the growing season. In combination, some selective hand cutting would be used to begin to reduce the amount of slash pine in dense stands to approximately 80 square feet basal area of pine per acre. Big and Little Pine Island would be excluded from the prescribed burn program and would be protected by firebreaks at least 1000 feet east of these islands.

The proposed dormant season prescribed burn(s) would be conducted with north to northwest winds between 5-12 mph. The prescription would require that the burn be initiated after a cold front has delivered enough rain to completely saturate the soils at Lathrop Bayou. The winter north to northwest winds tend to be relatively stable, giving the most reliable window to complete the burn. All homeowners within 3 miles of Lathrop Bayou would be notified of upcoming burns well in advance, and given the option for 24-hour notice prior to the burn.

Initial dormant season prescribed burns would be ignited and controlled primarily from the air using a helicopter directed by on-board BLM/St. Joe personnel with visual support from

the ground/water. The initial burn would be conducted with a predominantly backing fire, augmented with limited strip-head and flanking fire application. Red-cockaded woodpecker cavity trees would be protected by burning when soils are saturated, to protect surface roots of pine trees and by removing all fuels within a 20-foot radius of all red-cockaded woodpecker cavity trees. Backfires will be set on the south shoreline of the burn areas. Limited strip-head fires can be used to catch lagging back fires up with the rest of the backfire line. Flanking fires can be used at the discretion of the fire boss to speed the progress of fire through sensitive areas to reduce duration times of fire. Ground crews could be used for initial ignition and added control through the red-cockaded woodpecker cluster. The initial non-growing season burns are expected to be completed within 8 hours.

After the fuel loads have been sufficiently reduced (shrub layer reduced below 3 meters), the prescribed burns would be shifted to the growing season. Frequent growing season burns would be required initially to reduce the overall abundance and cover of shrubs on Raffield Island and the smaller island to the south. Once the shrub layer has been reduced in favor of herbaceous cover, the burn schedule would be adapted based on monitoring the response of the special status plants and the need to optimize habitat for the red-cockaded woodpecker. This may include occasional dormant season burns and longer burn intervals. The goal would be to optimize habitat conditions for the endemic special status plants found at Lathrop Bayou, as well as nesting and foraging habitat for red-cockaded woodpecker.

The proposed burn plan in the HMP Appendix C provides additional detail on the prescribed burn program, which is incorporated into the Proposed Action. Pertinent portions include the following excerpts.

The following goals collectively define the desired outcome resulting from a series of up to three dormant-season burns applied over a 3-6 year period.

1. To modify and promote fuel characteristics favorable for growing-season fire prescriptions while protecting mature pines and encouraging the expansion of herbaceous ground covers.

2. Reduce the height of mid-story fuels to an average of less than 3 meters over 80% of the islands. This goal would be met prior to shifting to growing season burns.

3. Achieve 75% mortality of slash pine (<15 yrs old, 1-4 meters height) within the longleaf/wiregrass central core. Harvesting, girdling or other mechanical means will be used to remove older slash pines to meet the goal of 80 sq. feet of basal area per acre.

4. Conduct the initial burn on the small island. The small island has similar fuel conditions to the big island (known as Raffield Island), but no resident RCWs. The fire behavior and post burn evaluation for this area will be used to modify the burn prescription for the big island. This burn area also will serve as a “black-line” firebreak between on Raffield Island and the mainland.

Dormant Season Fire Pre-Burn Preparations

1. Clearing of a 20 foot radius circle around all identified RCW cavity trees. These circles must be fuel free to assure fire does not 'ladder' up the cavity facing via exposed pine resin. Clearing must not be injurious to root systems within the duff layer.

2. Cutting and/or girdling of slash pine. Emphasis should be placed on slash pines within and bounding the central longleaf pine/wiregrass core area prior to the first fuel reduction burn.

3. Monitor the rack line debris load and fuel moisture of the shoreline adjacent to needle grass marshes. Moisture in these areas must be high to prevent fire intrusion into adjacent marsh grass and to prevent fire from spreading to the mainland. If rack is determined to be an inadequate firebreak, foam retardant or trampling of needle-grass with ATVs, air boat, or other vehicle may be used to secure a 30-foot minimum fire-break along marsh edges.

4. Create a firebreak through the needle rush marsh to exclude fire from Raffield Island during the burns on the smaller island and from the mainland. An airboat or low ground pressure tracked vehicle would be used to temporarily flatten the needle rush to create the firebreak at least 30 feet wide around the island. Areas of marsh inside of the firebreak would be allowed to burn during the first burn of the smaller island to create a "black line" and reduce the risk of fire escape during the Raffield Island prescribed burn. An additional firebreak would be placed between Raffield Island and the mainland prior to that prescribed burn.

5. Stage all equipment necessary to effectively apply and control the prescribed fires.

    - Stage personnel *behind the fire line* with drip torches and portable water backpacks near needle grass marsh boundaries. This equipment will be essential to fire crew personnel charged with controlling small spot fires crossing into the marshes.
    - Airboats, boats and/or low ground pressure tracked vehicle would serve as evacuation equipment should a marsh fire become uncontrollable by hand crews.
    - Transport vehicle, tractor and fire-plow will be located on the mainland downwind of the fire. This equipment will be available on stand-by to stop the fire at the mainland if the needle-grass marsh ignites.
    - Locate personnel in boats offshore to alert Incident Command to fire spotting issues.

Dormant Season Prescribed Fire Execution Plan

Firing technique

The initial burn will be conducted using a combination of hand and aerial ignition. The burn would begin with hand ignition that would establish a fire line at the southern edges of each island. The bulk of the ignition would be conducted from a helicopter with either BLM or St. Joe Timberland personnel on board directing the ignition with communication from ground crews.

Desired Fire Behavior Parameters

- Flame lengths: Flame length of the backing fire should not exceed 6 feet. We base these lengths on subjective observations of ground story fuels (primarily wiregrass clumps) that are ankle to calf-deep. Laddering of fire into midstory shrubs and trees is expected to yield longer flame lengths, but should not be a problem with backing fires. Application of strip-head and flank fires should not yield flame lengths greater than 12-15 feet Strip heading and flanking through rough midstory should be avoided.

- Rate of spread: Desired rate of fire spread for backing fires augmented with *conservatively -set* flank and strip-head fires is 1 to 3 chains (66 feet to 198 feet) per hour.

- Surface wind speed and direction: Winds north to northwest for the small island and north to northeast for big island. 20-Foot wind speeds no greater than 12 mph. Avoid burning under 'Red Flag' conditions (20-Foot wind speeds > 15 mph sustained)

- Transport wind speed and direction: Transport winds north to northwest or north to northeast. Transport wind speeds no greater than 20 mph with mixing heights no lower than 3000 feet.

- Minimum Relative Humidity: Daytime humidity levels greater than 35%. Avoid burning under 'Red Flag' conditions (RH < 35%).

- Fine Fuel Moisture: Fine fuel moisture levels should range between 20% to 40%

Other Planned Actions

Monitor special status plant populations and plant community to assess effectiveness of prescribed burn and thinning actions.

All known RCW at Lathrop Bayou are currently banded. Banding efforts will continue annually to band any young of the year between 5 to 10 days of age and all unbanded adults. Monitoring of this population on public and private land at Lathrop Bayou will be conducted at Level IVb as described in the Final RCW Recovery Plan, Revised (FWS, 2003).

Annual monitoring will be conducted of all cavity trees to determine status, health, new excavations, cavity enlargement, and encroachment by hardwoods, as per the Final RCW Recovery Plan, Revised (FWS, 2003).

Establish at least three breeding groups of RCW at Lathrop within five years.

Install two recruitment clusters with at least 4 cavities each (one on Raffield Island and one on the large unnamed island). Specific locations and scheduling of installation would depend on RCW population, cluster monitoring and availability of suitable trees. Each recruitment cluster would be installed only after population and cluster monitoring indicates the cluster could be occupied within one year, and after habitat has been restored to "good" condition as described in the Recovery Standard section of the Final RCW Recovery Plan, Revised (FWS, 2003).

Submit a relocation plan to the U.S. Fish and Wildlife Service and State of Florida for their approval proposing the trade of non-breeding RCWs from Lathrop Bayou for RCW from Eglin Air Force Base or Apalachicola National Forest. This exchange would promote genetic diversity and/or correct unbalances of RCW sex ratios at Lathrop Bayou and /or Wetappo Creek.

Conduct aerial and ground surveys for RCW in the vicinity of Lathrop Bayou and Wetappo Creek. All RCW inventory flights will be required to stay a minimum of 1,000 horizontal feet and 500 vertical feet from bald eagle nest(s) during the nesting season (October 1 through May 15). Aerial surveys would be conducted of St. Joe property along Wetappo Creek and other older growth corridors, which could harbor relic trees. If suitable habitat or evidence of cavity trees were located aerially, ground searches would be conducted to document the presence or absence of RCW. In addition, coordination with Tyndall Air Force Base has been initiated to document any foraging banded RCWs at that installation.

Conduct baseline surveys of reptiles and amphibians, including gopher tortoise and flatwoods salamander after the first non-growing season burn and before the first growing season burn. If any rare species of reptiles and amphibians are found to occur, then subsequent monitoring will be conducted to assess the species' response to the prescribed burn program.

Monitor representative or sensitive species of reptiles and amphibians annually.

To augment ongoing monitoring of nest activity by the Florida Fish and Wildlife Conservation Commission, begin monitoring the eagle nest annually to assess fledgling success.

Action: Remove camphor trees within one year of plan approval. Camphor trees will be killed in place with a basal bark treatment of Garlon 3. This herbicide is water-based and because Tricylopr, the active ingredient, has negligible root activity and breaks down quickly (half life of 10 to 46 days), it has little potential for causing nontarget damage through root absorption when carefully applied. Any herbicides used, would be applied

at rates at or below those indicated on the label and would be applied consistent with all other label directions.

Any other exotic plant species identified on the tract would be removed within six months of detection.

Adopt and implement the following Special Rules for the public domain lands at Lathrop Bayou:

1. Lathrop Bayou is closed to all vehicles, including all terrain vehicles, unless the use is specifically authorized by BLM.

2. No overnight camping or campfires are permitted at Lathrop Bayou.

3. No plant material will be removed or collected, unless authorized by BLM.

4. Visitors are required to carry out their litter/trash.

Install signs at key landing sites/access points at Lathrop Bayou. The sign will identify the area, its protected status, management partners and rules.

Establish law enforcement agreements with local entities of the Florida Fish and Wildlife Conservation Commission and the U.S. Fish and Wildlife Service to authorize local law enforcement at Lathrop Bayou.

BLM will prepare a plan amendment to the Florida Resource Management Plan (1995) to designate the public domain land at Lathrop Bayou as an Area of Critical Environmental Concern (ACEC) within six months of plan approval.

The No Action Alternative

Under this Alternative, the Lathrop Bayou HMP would not be approved or implemented. Although the following on-going management policies described in the Land-Use Allocations of the Florida RMP would remain in effect (BLM, 1995), no specific proactive steps would be taken to implement them.

1. The Lathrop Bayou tract will be administered as a wildlife habitat management area.

2. The tract will be available for cooperative management with other government agencies and/or private organizations.

3. The tract will be retained in public ownership and will not be available for disposal through Recreation and Public Purposes Act conveyance, sale, or exchange.

4. Management actions will conform to Recreation Opportunity Spectrum Class objectives for Primitive use.

5. The tract will be closed to motorized vehicles.

6. The tract will be seasonally closed to public entry from October 1 through May 30 to protect sensitive wildlife habitat.

7. Management actions will conform to Class II of Visual Resource Management objectives.

8. The tract will be classified as an avoidance area for rights-of-way.

9. The tract will be closed to mineral leasing and sales to protect sensitive wildlife habitat.

BLM staff would continue to work with the federal and state agencies and private landowners in conducting inventories and monitoring of special status species. However, pro-active steps including the prescribed burn program, signing and removal of exotic species would not be implemented. BLM would not implement its part of the Land Stewardship Memorandum of Understanding on public domain land, however participating partners could implement the agreement on private land.

Alternatives Considered But Withdrawn From Consideration

Ground Ignition Prescribed Burn

Under this alternative, the season, frequency and prescription would be the same as in the Proposed Action discussed above. However, the initial dormant season prescribed burns would be ignited and controlled with three to five crews on foot and ATVs. The initial burn would be conducted using predominantly backing fire, augmented with limited strip-head and flanking fire application. Backfires will be set on the south shoreline of the burn areas. Limited strip-head fires can be used to catch lagging back fires up with the rest of the backfire line. Flanking fires can be used at the discretion of the fire boss to speed the progress of fire through sensitive areas to reduce duration times of fire. Conducting a largely backing fire through the burn areas would require at least two 8-10 hour shifts.

Concern for the crew safety and the extended length of time needed to complete the burn resulted in this alternative being dropped from consideration. Although Raffield Island and the smaller island to the south are flat, they are both difficult to traverse quickly on foot because of the dense wiregrass hummocks in some areas, and the dense shrub layers in others. Travel by ATV is complicated by old stumps obscured by vegetation, and by dense stands of trees and shrubs. Without a system of escape routes, ground crews, particularly in the center of the island, would be at risk from wind shifts, aggressive flanking fires, etc. The long hours needed for hand ignition would require at least two shifts of ground crews, likely doubling the cost of the burn. In addition, the extended window of time needed to conduct a

hand ignited burn would increase the chance for critical weather parameters to change. Shifts in wind, humidity and the smoke dispersion index could place the fire outside of the approved burn prescription, endangering crews, critical resources and timberlands on the mainland.

V. Affected Environment

An aerial photograph taken of the Lathrop Bayou area in 1941 indicates a landscape that had been logged and maintained by regular fire. Given the evidence of cattle trails on the island, it would have been typical for the area to have been burned frequently to encourage more palatable new growth of the extensive wiregrass stand. That fire regime was apparently discontinued during the 1940's when the bulk of the current slash pine became established. Since that time there is scant evidence of regular fire at Lathrop Bayou. In its absence, a dense stand of slash pine has become established, primarily in the mesic flatwoods on the perimeter of Raffield Island at Lathrop Bayou. Within this area, a dense overstory and midstory has also developed. The herbaceous layer has been all but eliminated under these thick canopies. Currently only the center portion of Raffield Island retains the open savanna character evident in the 1941 picture. However in the last five to seven years young slash pine are also becoming increasingly more numerous even in this area.

Climate and Air Quality

According to the Southeast Regional Climate Center the average high temperature in nearby Panama City from 1972 – 2000 was 77.8 degrees. The average low temperature was 55.9 degrees. Average annual rainfall was 65.1 inches, with the highest average precipitation falling from June through August and the lowest average precipitation from April to May and October through December. Data collected between 1986 and 1995 illustrates that lightning strikes in this area of the Panhandle were most frequent during July and August, averaging 3 per square kilometer annually, with 1 per square kilometer during May, June and September (Hodanish et. al., 1997).

As a peninsula, Florida receives breezes from both the Gulf of Mexico and Atlantic Ocean. During the winter months in northern Florida these breezes and the prevailing winds typically come from the north. Winds come from the east, southeast and northeast are more common during the transitional months in fall and early spring. In the summer months, winds generally come from the south, southeast and southwest.

Air quality in Bay County is generally good. The Environmental Protection Agency (EPA) has designated the area as an "attainment area" where air pollution levels are below the minimum limits set by the EPA for six pollutants. These include nitrogen dioxide, sulphur dioxide, carbon monoxide, particulate matter less than 10 microns in diameter, lead and ozone. There are three industrial point sources for air pollutants in Bay County including Lansing Smith Power Plant, Stone Container and Arizona Chemical. Details are available in a report by the U.S. Fish and Wildlife Service, "Comments on Air Emission Reports for Three Major Air Pollutant Emitting Facilities

Bay County, Florida" published in 1999 (USFWS, 1999). In general, however East Bay where Lathrop Bayou is located, is largely an unindustrialized area dominated by commercial timberland and Tyndall Air Force Base.

Because the vast majority of area surrounding Lathrop Bayou is commercial timberland there are relatively few smoke management issues related to prescribed burning. Within five miles the following areas would be taken into consideration for smoke management: Tyndall Air Force Base runways, US Highway 98 and residences in the Allenton/Murray Bayou area, Sandy Creek residence, and a new home on St. Joe property immediately south of Lathrop Bayou. The Tyndall Air Force Base and US Highway 98 are approximately 4 miles southwest of Lathrop Bayou, the residence on Sandy Creek is approximately 2.5 miles north of Lathrop, Allenton is approximately 1.5 mile west of Lathrop Bayou, and the new residence on St. Joe property is located 1 mile due south of Lathrop Bayou.

Soils

According to the U.S. Soil Conservation Service (1984) the soils at Lathrop Bayou grade from Leon sand on the north and east to Oiser fine sand on the southern half of Raffield Island. The large island south of Raffield Island is mapped as Rains sand. All of these soils are poorly drained due to a high water table and are susceptible to seasonal ponding.

Leon sands typically have a water table within 10 inches of the surface for 1 to 4 months and depth of 10 inches to 40 inches for about 9 months in most years. Permeability is rapid in the surface and subsurface sands, and moderate to moderately rapid in the subsoil.

Oiser fine sands typically have a water table within a depth of 10 inches for 3 to 6 months a year. Most depressional areas are ponded for 2 to 4 months a year. Permeability is rapid, but internal drainage is very slow because of the high water table. Natural fertility and organic matter are moderate in the top 6 inches and low below that depth.

Rains sand typically have a water table of less than 10 inches for 2 to 6 months during most years. Natural fertility and organic matter are generally low.

Bayvi loamy sands support the needlerush marshes surrounding Lathrop Bayou. These soils have a low natural fertility. Organic matter is high on the surface and low in the lower areas. These areas are typically ponded 6 to 12 months of the year.

Water Quality, Surface and Ground

There is no known springs or identifiable seeps of fresh surface water on Raffield Island. Given the very flat topography and high water table, the soils are often saturated during the winter months, particularly in the center of Raffield Island.

There are two water quality sampling stations in the vicinity of Lathrop Bayou monitored to assess a variety of parameters for the shellfish harvesting. Shellfish harvesting in these areas is often curtailed after heavy precipitation.

Biological Resources

For descriptions of the vegetation, wildlife, special status species and other biological resources, please see these sections in the attached draft HMP

Native American Religious Concerns

Native Americans were contacted. Part of the tract has been surveyed, and no sites of Native American religious use were found. Also, there is no currently known use of the tract by Native Americans for religious purposes.

Cultural Resources

Fifty acres of the tract have been surveyed for cultural resources. No evidence of prehistoric use was located. However, a historic site was located, and dated no earlier than 1935 and no later than 1955. The site was determined to be associated with the turpentine industry. Features on the site include a house site with a collapsed brick chimney, an animal pen made of planks, fences of wooden posts and barbed wire, and dense scatters of mostly gallon-size, glass containers. The site is probably not eligible for listing on the National Register of Historic Places

Minerals

Although the Lathrop Bayou tract is within an area classified as having moderate potential for oil and gas development, there is no oil or gas production in either Bay or adjacent Gulf counties.

There is no potential for hard rock minerals in this area and given the resource values and remote location the site is not suitable for discretionary use for saleable material such as sand and gravel.

The Florida Resource Management Plan closed the tract to mineral leasing and sales.

Recreation and Visual Resources

Recreational use of the public domain at Lathrop Bayou has been sporadic and diffuse. The remote location and lack of vehicle access limits public access. The closest public recreational facility is the county managed boat launch on Sandy Creek, approximately 5 miles north of Lathrop Bayou. The waters surrounding Lathrop Bayou are used for recreational fishing, crab harvesting, and boating. The Intracoastal Waterway skirts just to the north of Lathrop Bayou to the mouth of Wetappo Creek.

The Lathrop Bayou is in a Visual Resource Management Class II, where the management objective is to retain the existing character of the landscape. To meet this objective, the level of change to the characteristic landscape should be low.

VI. ANTICIPATED IMPACTS

Proposed Action

Air Quality

North to northwest winds would carry smoke towards Mexico Beach and the Gulf of Mexico located five miles south of Lathrop Bayou. However the higher dispersion indices common after a frontal passage are expected to carry smoke well above the Mexico Beach community. Tyndall Air Force Base is located 1.5 miles southwest of Lathrop Bayou, however airfields actively used to land planes, are located approximately six miles west of Lathrop Bayou. The only portions of Tyndall Air Force Base that could potentially be affected by smoke are timberlands that are located southwest of the prescribed burn area.

There are very few homes near Lathrop Bayou. A new home was completed on East Bay in 2003, on the mainland approximately one mile due south of Lathrop Bayou. There are also several homes and buildings on the Allanton peninsula west of Lathrop Bayou. The burn will be visible from these residences. The homes on the Allanton peninsula are not expected to experience any smoke related issues given the north to northwest wind directions required in the burn prescription. The single home south of Lathrop Bayou could experience residual smoke, particularly if smoke dispersion rates drop during the burn. All homeowners within 3 miles of Lathrop Bayou would be notified of upcoming burns well in advance, and given the option for 24-hour notice prior to the burn.

Overall, air quality impacts should be minimal and would be short-term. Smoke from the burns would be generated for approximately 8 hours no more than once a year. Some residual smoke may linger in the local area through the nights following each burn. There are no long-term impacts to air quality as a result of implementing the proposed burn plan.

Soils

Burning affects soils by releasing nutrients and raising the soil pH. Mobilized nutrients are available to be taken up by vegetation, particularly during the growing season. The season of burn has not been found to alter the combined nitrogen pool of the forest floor and soil (McKee, 1982). Under this alternative, soil disturbance and compaction would be minimized by the use of predominately aerial ignition.

Constructing the temporary firebreaks with airboats in the marsh would flatten vegetation, but is not expected to result in long-term soil compaction of these areas.

Given the flat topography, lack of soil disturbance, and preponderance of deeply rooted fire-adapted plants, no impacts to the surrounding East Bay are expected.

There are no long-term adverse impacts to soils. Some limited long-term benefit would be realized by excluding unauthorized vehicles from Lathrop Bayou. Because of the long periods of saturated and wet soil, Lathrop Bayou would be particularly vulnerable to soil compaction and rutting from repeated vehicle use. Although the current public use levels are very low, precluding this use protects these wet soils from future vehicle related disturbances.

Vegetation

The dormant season burns are expected to be effective at killing most young slash pine (<3 inches dbh) at Lathrop Bayou and would remove most of the above ground biomass in both the herbaceous and shrub layers. Impacts to the herbaceous and shrub layers from individual burns are expected to be short-term. The herbaceous layer is expected to resprout vigorously, reaching pre-burn height within the following growing season. The shrub layer is also expected to resprout rapidly also without a change in overall community composition. The shrub layer is expected to regrow to a height of 3 feet within one to two growing seasons. Growing season burns at frequent intervals (at least every 2 years) would be required to reduce the occurrence of particularly robust shrubs, such as saw palmetto, yaupon and wax myrtle. In addition to prescribed burning, mechanical manipulation would occur with the use of hand cutting/girdling to kill crowded slash pine to reach a basal area of 80 sq. feet of pine basal area per acre. Girdled trees would be left in place to blow over naturally. Cut trees would be felled and left in place. Work related to pine thinning would be scheduled as crews and funding are available.

Given the heavy fuel loads, an estimated 90 percent of the proposed burn areas (Raffield Island and the smaller island south of Raffield) are expected to burn. Depending on the location and size of unburned areas, ground crews may have to set additional spot fires to reach that 90 percent burn coverage. Subsequent aerial ignited burns are expected to burn at least 85 percent of the islands.

Long-term impacts to vegetation from implementation of the proposed burn program would depend on the frequency and timing of the burns and the duration of the program. In general, the initial dormant season burns would reduce the vegetation fuel load, reduce shrub height and encourage growth in herbaceous plants. Subsequent growing season burns would, over years, increase the area dominated by herbaceous plants and decrease the shrub component in the burn areas. Burn schedules would be adjusted to allow for pine regeneration, after the shrub layer has been reduced. The burn schedule would be adapted as needed to meet goals and objectives in the Lathrop Bayou HMP, which would eventually alter the vegetation structure at Lathrop Bayou, thinning dense stands of slash pine to 80 sq. feet of pine basal area per acre, encouraging longleaf pine regeneration, reducing shrub coverage and increasing the area dominated by herbaceous cover. These burn objectives would benefit virtually all of the special status plants recorded at Lathrop Bayou. All of these species are expected to benefit from decreased competition, reduced shading

Special Status Plants

All of the special status plants recorded at Lathrop Bayou are considered to be fire dependent and are expected to benefit from implementation of a prescribed burn program at Lathrop Bayou. However, there is scarce published data on the optimal fire frequency for each of these species. The federally listed species, White-birds-in-a-nest (*Macbridea alba*), Florida skullcap (*Scutellaria floridana)* and, to a lesser extent, Godfrey's butterwort (*Pinguicula ionantha*) are expected to benefit from very frequent prescribed burning. These plants are known to respond quickly and robustly to burning with increases in flowering and plant vigor (see HMP for discussion). While altering the vegetation structure at Lathrop Bayou in favor of herbaceous cover provides long term benefits for all of the special status plant species at Lathrop Bayou, post burn monitoring would provide the feedback needed to fine tune the burn schedule to optimize conditions for the array of species found there.

This suite of special status plants are also expected to benefit by reducing the pine density and canopy. All of these species favor open situations. Areas of dense pine at Lathrop Bayou are generally devoid of all special status plants, other than verbesina. Opening the pine canopy is expected to increase the area of suitable habitat for special status plants along with most herbaceous plants. Monitoring would document the response of these species to the proposed actions.

Special Status Animals

Red-cockaded Woodpecker

Red-cockaded woodpeckers are expected to benefit from the proposed prescribed burn regime and the thinning of dense pine. The prescribed burn program would reduce the midstory shrub component, a factor limiting the amount of useable RCW habitat at Lathrop Bayou. It would also increase herbaceous growth, which has been shown to boost productivity in clusters (James *et al*. 1997). Fire would also tend to remove smaller

and more crowded slash pine, opening up the slash stand and increasing suitability for RCW.

RCW cavity trees would be safeguarded during all burns by clearing duff and flammable materials from within 20 feet of all cavity trees and conducting initial burns when soils are saturated to protect the surface roots of mature pine. Given the heavy fuel loads at Lathrop Bayou, there remains the possibility of scorching mature cavity trees, particularly on the fringes of the denser slash pine areas during initial burns. Prudent ignition of backing and short strip fires and cavity tree protection measures are expected to minimize this risk. Without the use of prescribed fire at Lathrop Bayou, habitat conditions for red-cockaded woodpecker are expected to substantially decline over the next decade. As per the Final RCW Recovery Plan, Revised (FWS, 2003), if a cavity tree is damaged by prescribed burning it would be replaced by an artificial cavity within 24 hours or as soon as weather conditions permit.

The Lathrop Bayou and Wetappo Creek RCW populations are threatened by not only deteriorating habitat conditions, but also by their small numbers, genetic isolation and presence of only one known breeding female. Direct population augmentation would not be permitted under the criteria given in the Final RCW Recovery Plan, Revised (FWS, 2003), which requires that populations have at least 10 active clusters, and no more than 30, to be considered for augmentation. However, rather than direct augmentation for outside RCW, the HMP proposes to exchange non-breeding birds either between Lathrop and Wetappo, or for outside birds to obtain female birds and/or to improve genetic diversity in both populations.

In addition, surveys would be conducted of surrounding areas for other RCW populations. The HMP proposes annual monitoring of all RCW at Lathrop Bayou and Wetappo (Level IVb in the Final RCW Recovery Plan, Revised).

Bald Eagle

The bald eagle nesting efforts at Lathrop Bayou have been consistent over at least the last 10 years. Bald eagle monitoring would be increased to include annual fledgling surveys. The monitoring data would be used to determine overall trends and to assess the need for future protection measures. Currently, no actions are proposed to modify habitat within the 750 feet or primary eagle nest protection zone. Big and Little Pine Islands would be excluded from prescribed burns and protected by temporary firebreaks a minimum of 1,000 feet from the island. The initial burns would be conducted during the dormant season, probably January or February. This corresponds to the eagle nesting season (October 1 to May 15).

Aerial ignition could be disruptive to these eagles. Watson (1993) who studied the response of bald eagles to helicopter nest surveys using turbine-engine helicopters found that 53% of eagles responded to helicopters that came within 450 meters (1,476 feet) of a nest tree. The Habitat Management Guidelines for the Bald Eagle in the Southeast Region (FWS, 1987) recommend no helicopter or fixed-wing aircraft within 1,000'

horizontal distance or 500 feet vertical distance from the nest. The southern shore of Raffield Island is approximately 1,600 feet from the bald eagle nest. All aerial support for the prescribed burn program would be required to stay a minimum of 1,000 feet from the bald eagle nest tree and would be encouraged beyond that to minimize time within 1,500 feet of the nest.

Bachman's Sparrow

Habitat conditions for Bachman's sparrow are expected to improve with prescribed burning and pine thinning. Plentovich et. al. found that Bachman's sparrow benefited from frequent (3-5 year interval) growing season burns because it reduced the shrub component and stimulated a dense cover of herbaceous growth. Shorter burn intervals (1 – 3 years) may, over the short term, result in increased mortality for this ground nesting/foraging bird. Seaman (1998) reported 3 deaths out of 38 marked birds after a growing season burn in South Carolina. Bachman's sparrow are known to make two or even rarely three nesting attempts in a season, which could allow for recruitment even during frequent growing season burns. The prescribed fire program is expected to result in long-term benefits to habitat quality and quantity at Lathrop Bayou, although the frequent growing season burns required to reduce the existing shrub layer would temporarily increase the potential for nest mortality and even the direct loss of adult birds

Gopher Tortoise

If there are gopher tortoise at Lathrop Bayou, prescribed burning is expected to improve habitat quality and quantity by increasing herbaceous growth. Tortoises should be underground during the dormant season burns, particularly after a cold front. The aerial ignition proposed in this area would preclude damage by vehicles. During subsequent growing season burns, tortoises are expected to utilize burrows for cover.

Flatwoods Salamander

Habitat conditions for this species are expected to improve with prescribed burns, particularly growing season burns, which would promote herbaceous growth on which this species is dependent. Proposed inventory and monitoring would document occupied habitat and allow for more focused management.

Florida Black Bear

Bear use at Lathrop Bayou is expected to be sporadic and it is unlikely that bears would be on the island during the prescribed burns. However, if bear were sighted during the prescribed burn, aerial ignition would be modified to allow for escape. Because the prescribed burning program would be used to decrease the overall shrub layer, including berry producing shrubs, it may temporarily reduce seasonal use of the area by black bear.

Birds of Conservation Concern

In addition to Bachman's sparrow discussed above, brown-headed nuthatch, Chuck-will's-widow, common ground dove, reddish egret, seaside sparrow and least tern either occur or have potential to occur in the Lathrop Bayou area. Habitat conditions for the upland birds, including brown-headed nuthatch, Chuck-will's-widow and common ground dove are expected to improve with prescribed burning. Growing season burns have been shown to result in two to seven-fold increases in insect densities in hardwood encroached longleaf pine stands (Provencher et al. unpublished). There is expected to be an increasing number of snags, pines killed either by fire or by girdling during manual thinning. This would provide increased nesting opportunities for brown-headed nuthatch and other cavity nesters. Ground nesters, including Chuck-will's-widow and common ground dove could lose nests during growing season burns. Common ground doves have been known to breed throughout the year and could be expected to renest. Chuck-will's-widow are unlikely to renest that year, if a clutch is lost. Growing season burns are not expected to impact reddish egret, as there are no known rookeries at Lathrop Bayou. Seaside sparrow nests, which could occur at Lathrop Bayou, could be damaged if marsh is disturbed to create temporary firebreaks, although the potential would be low. Foraging least terns are not expected to be affected by the prescribed burn program.

Recreation and Visual Resources

The proposed HMP implementation decisions close the public land to camping and campfires and vehicle use, unless specifically authorized by the BLM. Because there is little public visitation to Lathrop Bayou at this time, these restrictions do not substantially affect existing recreational use patterns. However, if this area becomes developed in the future, these restrictions would restrict public visitation and use at one of the few public tracts of land in East Bay. Precluding these public use patterns from becoming established would safeguard these biological resources while habitat improvement actions are being implemented.

Recreation and public use would be impacted by the implementation of Special Rules for the public domain at Lathrop Bayou. The perimeter of the public domain would be signed to identify the area as the Lathrop Bayou Habitat Management Area. The sign would alert the public to the special rules established for Lathrop Bayou, including:

1. Lathrop Bayou is closed to all vehicles, including all terrain vehicles, unless the use is specifically authorized by BLM.

2. No overnight camping or campfires are permitted at Lathrop Bayou.

3. No plant material will be removed or collected, unless authorized by BLM.

4. Visitors are required to carry out their litter/trash.

The public domain portions of Lathrop Bayou were closed to vehicle use in the Florida RMP. The HMP would add restrictions on overnight camping and campfires, as well as citation authority. High fuel loads, lack of access for fire suppression and protection for special status species warrant additional restrictions. These Special Rules pertain only public domain lands. Authorization to camp, use vehicles, or build campfires on private land would remain with the private landowners.

Regarding impacts to visual resources, implementation of the HMP would result in altering the vegetation structure at Lathrop Bayou. Howver, this would not be an obvious change to the view of Lathrop Bayou from the mainland or offshore. Tall pine will continue to provide the dominant visual feature, even if less dense.

Cultural Resources

Under this alternative, the few wooden remains associated with the site would be destroyed. The remnants of the animal pen and the fence posts would all be subject to burning. However, this portion of the site has been recorded and partially mapped. The probable turpentine-processing site would be better revealed due to the removal of the palmetto and other underbrush that currently mostly obscures this portion of the site.

No Action Alternative

Air Quality

In the absence of fire, there would be no resulting impacts to air quality. However, as fuel loads continue to accumulate there would be a continuing risk of wildfire. A wildfire at Lathrop Bayou could become a rapidly moving head or flanking fire, which could result in stand replacing crown fire. More residual smoke and less than optimum dispersion rates could result in smoke at Mexico Beach or Tyndall Air Force Base airfields.

Soils

No impacts to soils are expected under this alternative

Vegetation

Without fire, the ongoing transition to dense slash pine is expected to continue, although at the present rate it may take decades. The flatwood/savanna areas of Lathrop Bayou have apparently been very stable, however there are several areas of five to seven year old slash pine regeneration already established. This trend would continue until eventually the herbaceous layer of vegetation would be compromised by heavy overstory and shrub layers.

If a wildfire occured at Lathrop Bayou in all but the wettest conditions, the current fuel heavy fuel loads would likely result in the catastrophic loss of pine across the island.

Under the proposed plan, there would not be any removal of exotic species or stump treatment of trees. This leave Raffield Island and the associated island vulnerable to increased presence of exotic species, particularly after natural disturbances such as hurricanes and wildfire. Wild hog would continue to cause damage to vegetation through rooting.

Special Status Plant Species

The suitability of the area to continue to support the host of endemic plants dependent on the open, typically fire-maintained flatwood/savanna habitats would continue to decline in the absence of fire. Current research suggests that for at least white-birds-in-a-nest and Florida skullcap, flowering and plant vigor typically decline within a few years following a fire. The persistence of these species at Lathrop Bayou is already exceptional. However, eventually shading and heavy thatch are expected to suppress flowering and these species would be lost. Madsen (1999) found that 87% of dry stored white-birds-in-a-nest seeds were viable 6 months after dispersal, however none were viable after three years. For at least this species, maintaining the adult plants and promoting flowering through regular prescribed burning are vital for maintaining this population.

A wildfire is expected to have short-term benefits for most of the special status plants found at Lathrop Bayou. Such a fire would likely eliminate most of the pine canopy, shrub component and duff layer. However, without frequent follow-up burns, the shrub layer is expected to return with renewed vigor within two growing season. There would also likely be substantial pine regeneration with no overall change in long term species composition.

Special Status Animal Species

Red-cockaded Woodpecker

In the absence of fire, habitat conditions at Lathrop Bayou are expected to continue to decline. Hardwood midstory and slash pine regeneration would continue to reduce the suitability of current nesting habitat in the center of Raffield Island. The area may remain suitable as RCW foraging habitat for several decades. Ultimately, the tract is expected to become unsuitable for RCW. A natural wildfire during this time could result in the catastrophic loss of pines and RCW habitat. RCW cavity trees would be particularly vulnerable because of flammable exposed sap. The surface roots of pine in the thick duff layers would also be vulnerable to damage.

Without augmentation, the RCW population at Lathrop Bayou could be extirpated before the habitat degrades to the point of becoming unsuitable for nesting. Given that there is currently only one breeding female in the cluster, with no evidence of additional females known in a two county area, there is the potential this population could be reduced to non-breeding status on the death or abandonment of that female. Females generally

disperse from their natal cluster, so females fledged during this time would not necessarily contribute towards maintaining this cluster. The original breeding male is likely to remain on his territory until his death.

Bald Eagle

This nest would continue to be monitored annually for nesting activity without additional surveys to determine fledgling success. This would make it more difficult to assess the eagle's response to increases if public use of the area develops. Disturbance from the aerial ignition of the prescribed burns would be avoided.

Bachman's Sparrow

Habitat conditions for Bachman's sparrow are expected to continues to decline over the next twenty years, with increasing slash pine density and shrub cover.

Gopher Tortoise

In the absence of fire, habitat conditions for gopher tortoise are expected to continue to decline as shrub, hardwoods and pine stands become increasing dense.

Flatwoods Salamander

Flatwoods salamanders are typically found in areas where herbaceous plant communities border isolated wetlands. In the absence of fire, these habitat conditions are expected to continue to decline at Lathrop Bayou.

Birds of Conservation Concern

Although conditions for the upland bird species are expected to remain relatively stable for many years, eventually habitat conditions are expected to decline. As the pine and shrub density increases, at the expense of herbaceous cover, foraging opportunities and nesting conditions for ground nesting birds would decline. The No Action Alternative would have no affect on habitat conditions for reddish egret, seaside sparrow or least tern.

Cultural Resources

Under this alternative no impacts would occur to the cultural resources on the tract.

Recreation and Visual Resources

Under the No Action Alternative, Lathrop Bayou would remain closed to motorized vehicles, although there would be no specific citation authority. Lathrop would remain open to camping and all casual uses, including campfires. As the east end of East Bay develops, Lathrop Bayou is expected to become an increasingly attractive destination for boaters, campers, hikers, etc.. Lathrop would be a logistically difficult location to

provide services, such as trash pick up and law enforcement patrols.. Increased risk from escaped campfires, disturbance to special status species would likely result, as the public becomes increasingly aware of the public land.

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